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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

11 AUG 2004

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Applicant's or agent's file reference 3167-01	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/US 03/17588	International filing date (day/month/year) 05.06.2003	Priority date (day/month/year) 10.06.2002
International Patent Classification (IPC) or both national classification and IPC C10M163/00		
Applicant THE LUBRIZOL CORPORATION et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 07.01.2004	Date of completion of this report 10.08.2004
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Van Iddekinge, R Telephone No. +49 89 2399-8346



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US 03/17588

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-24 as published

Claims, Numbers

1-27 as published

28-32 filed with telefax on 11.02.2004

Drawings, Sheets

1 as published

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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International application No. **PCT/US 03/17588**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2-21,24-31
	No: Claims	1,22,23,32
Inventive step (IS)	Yes: Claims	
	No: Claims	1-32
Industrial applicability (IA)	Yes: Claims	1-32
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1). Reference is made to the following documents:

D1=EP-A-1203806

D2=EP-A-1167497

D3=US-A-5919740

2). D1 discloses a lubricant comprising (D1: claim 1; tables 2,3):

- a base oil
- a polyalkenyl succinimide (D1: claim 1)
- a calcium phenate and/or calcium sulfonate (D1: claim 1)
- a zinc dithiophosphate, being preferably a salt of a dialkyldithiophosphoric acid according to claim 1 of the present application (D1: claims 1,3; tables 2, 3; page 4, line 45 - page 5, line 12)

D2 discloses a lubricant comprising (D2: claims 1,3):

- a base oil
- an ashless dispersant, comprising an alkenyl- or alkyl-succinimide (D2: claim 1)
- an alkali or alkaline earth metal containing detergent (D2: claim 1)
- a zinc dialkyl dithiophosphate, being preferably a salt of a dialkyldithiophosphoric acid according to claim 1 of the present application (D2: claim 1; example 3; column 7)
- an oxidation inhibitor (phenol or amine compound)

D3 discloses a lubricant comprising (D3: column 3, lines 49-66):

- a base oil
- an ashless dispersant, being preferably an acylated nitrogen compound having at least about 10 aliphatic carbon atoms and a TBN of at least about 2 (D3: column 4, lines 33-64; example 3)
- a metal detergent, being preferably neutral or overbased calcium and magnesium phenates and sulfonates (D3: column 5, lines 35-37; example 3)
- a metal or amine dihydrocarbonyl dithiophosphate, being preferably a salt of a dialkyldithiophosphoric acid according to claim 1 of the present application (D3: claims 1-3; example 3; column 7)
- a pour point depressant

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-a viscosity modifier

The claimed lubricants of D1, D2 and D3 are internal combustion engine lubricants and have a low phosphorus content and do not contain copper (certain embodiments of the lubricants of D2 and D3 may contain copper).

The argument given by the applicant that the subject-matter of the present claims is novel because D1-D3 do not explicitly disclose the substantial absence of copper cannot be accepted because the subject-matter of a claim is normally defined by means of positive features. Therefore it may be assumed that when a certain compound (copper) is not mentioned in a claim then this compound is not necessary and not present.

Claims 1-4 of D1 and claims 1-18 of D2 and claims 7-8 of D3 define lubricant compositions. None of these claims mention copper. Therefore copper is not an essential feature in the lubricant compositions of D1, D2 or D3. Consequently it may be assumed that D1, D2 and D3 disclose lubricant compositions wherein copper is substantially absent.

Thus D1, D2 and D3 disclose the subject-matter of all the independent claims 1, 22, 23 and 32.

Therefore claims 1, 22, 23 and 32 do not fulfil the requirements of Article 33(2) PCT (novelty).

- 3). The additional features of dependent claims 2-21, 24-31 either known from D1, D2 and/or D3 or do not appear, in combination with the features of any claim to which they refer, to involve an inventive step.

Therefore claims 1 to 32 do not fulfil the requirements of Article 33(3) PCT (inventive step).